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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/089,871	06/04/98	BARENDSE R	97253-A

HM12/1024
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EXAMINER	
TUNG, P	
ART UNIT	**PAPER NUMBER**
1652	12

DATE MAILED: 10/24/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/089,871	Applicant(s) Barendse et al.
	Examiner Peter Tung	Group Art Unit 1652

☒ Responsive to communication(s) filed on *Aug 15, 2000*.

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *18-28, 31-35, 39, and 40* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *18-28, 31-35, 39, and 40* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Election/Restriction

1. Claims 18-28, 31-35, 39 and 40 are pending.

Specification

2. The use of the trademarks "S SEPHAROSE FAST FLOW" (page 17), "Q SEPHAROSE FAST FLOW" (page 17), "STIRRED CELL" (page 18) and "MARUMERISER" (page 18) has been noted in this application. The trademarks should be capitalized wherever they appear and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 18 is unclear as to the concentration of the phytase solution. The concentration is provided in FTU/g. It is not clear if this is meant to refer to the specific activity of the phytase or to its liquid concentration. However, for liquid concentration, the units should be provided in units per liquid volume, e.g., units/ml.

6. Applicants argue that one of ordinary skill in the art would recognize that FTU/g is not the specific activity of the phytase and that FTU/g refers to the activity of phytase in a given amount of the aqueous solution, as measured by weight in grams.

7. Applicant's arguments filed 8/15/00 have been fully considered but they are not persuasive. The use of activity/g is recognized in the art as the specific activity of the enzyme. No other usage has any meaning for one of ordinary skill in the art. The definition of FTU/g where the weight is the weight of the liquid solution is repugnant to its usage by those of ordinary skill in the art.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 18, 19, 21, 22, 25-28, 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamstra et al. in view of Nevalainen et al. (Ref. BJ, cited in IDS) and Jane et al. (U.S. Patent No. 5,397,834). This rejection is explained in the previous Office action.

10. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamstra et al. in view of Nevalainen et al. (Ref. BJ, cited in IDS) and Jane et al. (U.S. Patent No. 5,397,834) as applied to claims 18 and 19 above, and further in view of Overton. This rejection is explained in the previous Office action.

11. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamstra et al. in view of Nevalainen et al. (Ref. BJ, cited in IDS) and Jane et al. (U.S. Patent No. 5,397,834) as applied to claims 18 and 19 above, and further in view of Bedford et al. (U.S. Patent No. 5,612,055)

12. Applicants argue that Nevalainen et al. cannot teach or suggest the claimed invention as the reference discloses a phytase that is several orders of magnitude lower than the phytase activity of 14,000 FTU/g of the instant claims. Applicants argue that Jane et al. teach a feed pellet that is not suitable for that of the instant invention. Applicants argue that the method of formulating feed pellets according to the reference would result in enzyme cross-linked to the starch aldehyde and an inactive enzyme.

13. Applicant's arguments filed 8/15/00 have been fully considered but they are not persuasive. The phytase disclosed by Nevalainen et al. is of sufficient activity to teach or suggest the phytase of 14,000 FTU/g of the instant claims. Table 1 on page 38 of the instant reference teaches that the Mono S fraction is a phytase with an activity of 275,885 Units/g, which is that of the instant claims. Jane et al. teach a composition comprising protein and aldehyde starch. To this cross-linked composition may be added other additives before extruding (column 2, lines 4-18; column 4, line 57-column 6, line 39). Jane et al. do not teach or suggest that further additives to the already cross-linked protein-starch will result in further cross-linking.

14. Claims 23, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamstra et al. (cited in previous Office action) in view of Nevalainen et al. (Ref. BJ, cited in IDS) and Grabitz. Hamstra et al. teach (page 5, lines 25-34) a method of making feed pellets by adding phytase to said pellets. Hamstra et al. do not teach the composition of the pellets, other than that they are composed of an edible material (page 5, line 7). Nevalainen et al. teach (page 38, Table 1; page 3, lines 9-26) a highly active *A. niger* phytase (275,885 U/g) and the use of phytases in

animal feed compositions. Nevalainen et al. do not teach feed pellets containing highly active *A. niger* phytase. Grabitz teaches (page 4, Example 2; page 2, line 39-page 3, line 45) a composition comprising ground maize cobs which may be pelleted for use as an animal feed and comprising a carboxymethylcellulose coating. Grabitz does not teach a phytase-containing pellet. The phytase-containing granulate prepared by processing a solid carrier comprising at least 15% (w/w) of an edible carbohydrate polymer, an aqueous liquid comprising phytase of 14,000 FTU/g, carboxy-methyl-cellulose and soybean oil would have been obvious to one of ordinary skill in the art at the time the invention was made as one of ordinary skill in the art would have been motivated to combine the teachings of Hamstra et al. in view of Nevalainen et al. and Grabitz. to arrive at the phytase-containing granulate of the instant claims. One of ordinary skill is motivated to combine the teachings as Hamstra et al. teach making feed pellets by adding phytase to edible pellets, Nevalainen et al. teach using a highly active *A. niger* phytase in animal feed compositions and Grabitz teach a composition which may be pelleted for use as an animal feed comprising ground maize cobs and carboxy-methyl-cellulose. One of ordinary skill in the art would have recognized that the phytase added to the feed pellets, according to the teachings of Hamstra et al., could be the highly active *A. niger* phytase useful in animal feed compositions, according to the teachings of Nevalainen et al. and that the composition of the edible pellets may comprise ground maize cobs and carboxy-methyl-cellulose, according to the teachings of Grabitz. One of ordinary skill in the art would have a reasonable expectation of success of making the phytase-containing pellets as it would be a reasonable expectation that *A. niger* phytase according to the teachings of

Nevalainen et al. can be added to feed pellets comprising ground maize cobs and carboxy-methyl-cellulose, according to the teachings of Grabitz. Therefore the invention as a whole would have been prima facie obvious to a person of ordinary skill in the art at the time the invention was made.

15. No claims are allowed.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Tung, Ph.D. whose telephone number is (703) 308-9436. The examiner can normally be reached on Monday-Friday from 9:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy, Ph.D., can be reached on (703) 308-3804. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-0294.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

PONNATHAPU ACHUTAMURTHY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600